

REMARKS

Claims 1-3 and 6, 8-11, and 13 are pending in this application. With claims 1 and 6 amended and claims 7 and 12 cancelled herein. No new matter is added by these amendments.

Claims 1-3 and 6-13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,859,116 to Nishimura et al, in view of U.S. Patent No. 5,585,687 to Wakabayashi and in further view of U.S. Patent No. 6,362,561 to Kuroda and/or U.S. Patent No. 3,796,968 to Luscher.

Initially, there is no express teaching in Wakabayashi of two inclined surfaces having different sizes. Rather, in order to formulate a rejection, it is respectfully submitted that the Examiner has made an overly broad interpretation of the term trapezoidal as found in the Wakabayashi reference. It is understood by those of skill in the art that there are technical advantages to having symmetrical inclined surfaces. Namely this symmetrical shape traps the vibration energy excited in the crystal blank in the center portion of the crystal blank, where the principal surfaces are parallel, thus maintaining the vibration characteristics. In terms of maintaining the vibration characteristics having symmetrical included surfaces is preferred. With this knowledge, and considering the limited teachings of the Wakabayashi reference regarding the trapezoidal shape, one of skill in the art would not be led to believe that the term “trapezoidal” in this context includes an asymmetrical trapezoidal shape, as suggested by the office action.

Further, even if trapezoidal, as used by Wakabayashi, does include the very broad definition provided by the Examiner, it is respectfully submitted that the crystal of independent claim 1 does not meet this definition. Namely, the definition provided in the office action asserts

that a trapezoid must be a quadrilateral, but as amended claim 1 clarifies that the structure of the crystal is not a quadrilateral, as the second inclined surface does not extend to the second primary surface, meaning that another surface is there between, as shown in Fig. 8. Accordingly, claim 1 does not define a trapezoid as defined by the Examiner and used to interpret Wakabayashi.

Finally, with respect to the argument raised in the “response to arguments” section regarding Nishimura and the extension electrodes being extended towards the larger inclined surface, the office action references Figs. 11 and 12, it is submitted that these fails to meet the limitations of the claims. Fig. 12 shows only a single inclined surface, not two and in both Fig. 11 and 12 the extension electrodes are not found on the inclined surface. Rather the extension electrodes (elements 33 and 34) are found on the parallel primary surfaces, and only the excitation electrodes 2 and 3 are found on the inclined surfaces. Second, contrary to the assertions of the office action, Figs. 11 and 12 show only a inclined surfaces being formed on a single end of the crystal, and thus cannot meet the limitations of the claims which require the greater (first) inclined surface to be on a different side from the second inclined surface, and both extending from the first primary surface. Accordingly, the argument that Nishimura teaches the extension electrodes extended towards a greater inclined surface is not supported by the reference. Further, Wakabayashi shows extension electrodes extending towards both inclined surfaces from a single excitation electrode (Fig. 8) not extending towards a larger inclined surface, and both Luscher and Kuroda show extension electrodes extending in opposite directions, and not to a single, larger inclined surface.

Based on the foregoing arguments and amendments, it is submitted that independent

claims 1 patentably distinguishes over the relied upon portions of the cited prior art references and is allowable.

Claims 2, 3, and 6, 8-11, and 13 depend from claim 1 and are therefore allowable for at least the same reasons as claim 1 is allowable.

CONCLUSION

In view of the remarks set forth above, this application is believed to be in condition for allowance which action is respectfully requested. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged to Deposit Account No. 50-1290.

Respectfully submitted,

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